

CRYPTOSPORIDIOSIS

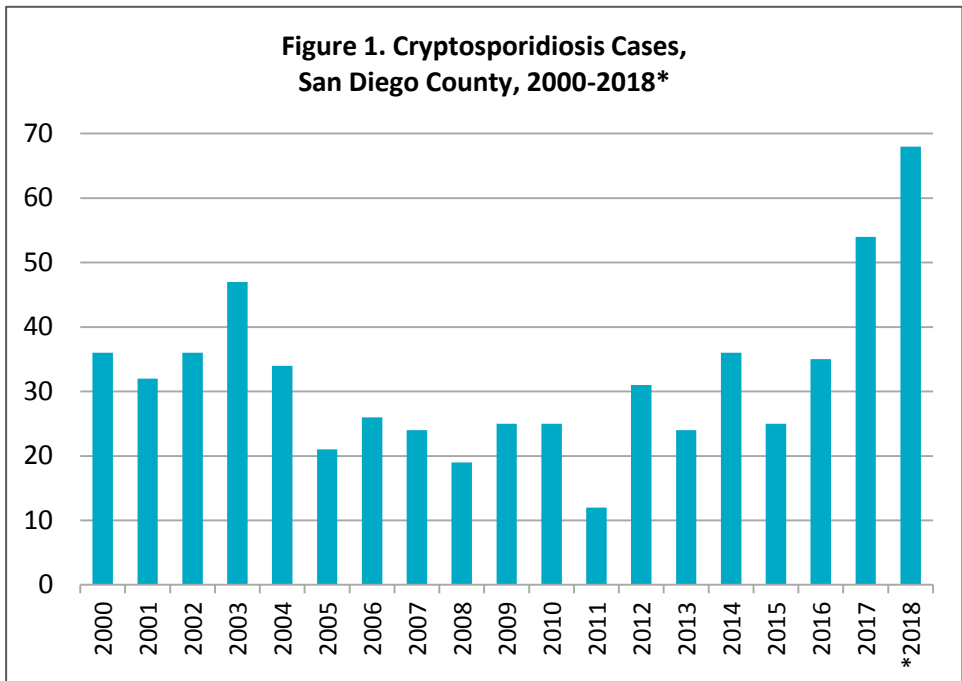
Cryptosporidiosis (crypto) is a gastrointestinal illness caused by a protozoan parasite and characterized by watery diarrhea and abdominal cramps, sometimes accompanied by nausea, vomiting, and fever. Infection can also be asymptomatic. Immuno-competent persons will usually recover without treatment after one to two weeks. However, symptoms may appear to resolve then return before final recovery. *Cryptosporidium parvum* and *Cryptosporidium hominis* are the two species most commonly associated with human illness.

Persons who are immunosuppressed often have more severe illness, particularly when CD4 counts are low. When immune function improves, symptoms may disappear, but the infection often persists and can be transmitted to others. Symptoms may reappear if immune status worsens.

Crypto is spread via fecal-oral transmission of *Cryptosporidium* oocysts, which are immediately infectious when shed in stool. Transmission may be waterborne, foodborne, person-to-person, or animal-to-person. Factors that contribute to transmission include a low infectious dose; profuse and prolonged shedding in stool (weeks to months after symptoms resolve); and a hard shell around the oocyst that makes it extremely tolerant to chemical disinfectants, including chlorine, and causes it to remain infective outside the body for long periods.

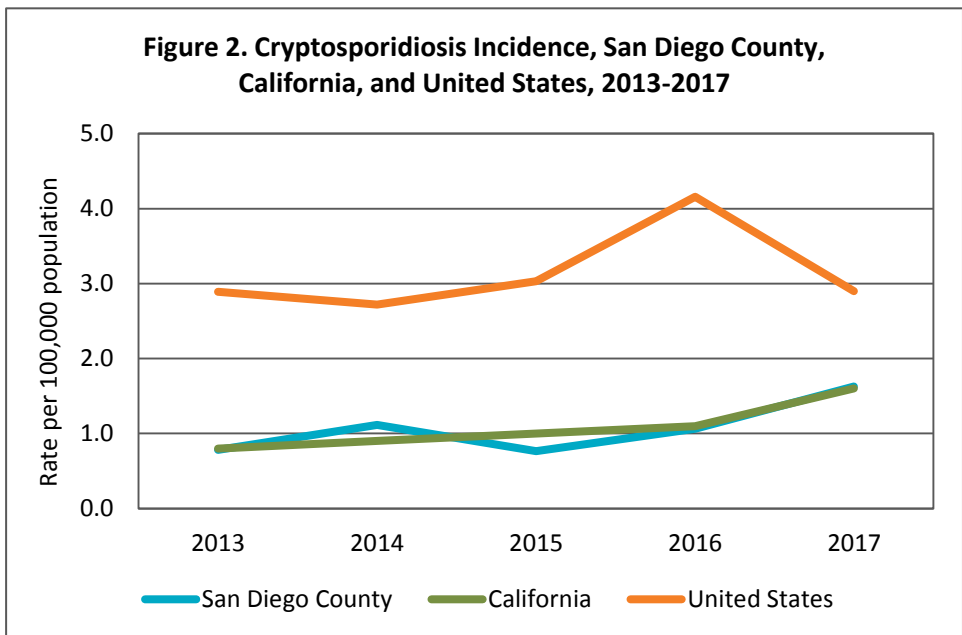
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Figure 1. Cryptosporidiosis Cases, San Diego County, 2000-2018*



*2018 data are year-to-date; current as of 10/15/2018. Data are provisional and subject to change as additional information becomes available. Grouped by CDC disease years.

Figure 2. Cryptosporidiosis Incidence, San Diego County, California, and United States, 2013-2017



Rates for California and United States calculated using counts from the Centers for Disease Control and Prevention (CDC) and the California Department of Public Health (CDPH) and U.S. Census Bureau population estimates. 2017 numbers, particularly for the United States, are not final and are subject to change. San Diego County rates calculated using SANDAG population estimates.

The Monthly Communicable Disease Surveillance Report is a publication of the County of San Diego Public Health Services Epidemiology and Immunization Services Branch (EISB). EISB identifies, investigates, registers, and evaluates communicable, reportable, and emerging diseases and conditions to protect the health of the community. The purpose of this report is to present trends in communicable disease in San Diego County. To subscribe to this report, send an email to EpiDiv.HHSA@sdcounty.ca.gov.



CRYPTOSPORIDIOSIS, Cont'd

Because of the organism's chlorine tolerance, crypto has been a leading cause of [waterborne disease outbreaks](#) in the United States (U.S.), related to both [recreational](#) and [drinking](#) water. In addition to those exposed to contaminated water, other populations at increased risk include child care attendees and workers, international travelers, campers and hikers, persons handling infected cattle, and those exposed to human feces through sex. *Cryptosporidium* parasites are found throughout the U.S. and around the world. In 2017, there were 9,444 cases reported in the U.S., a rate of 3.0 cases per 100,000 population, a number likely to go up once final counts are available. U.S. rates are consistently higher than California or San Diego County rates, largely driven by higher rates in the Midwest. In 2017, California received 642 crypto case reports, a rate of 1.6 per 100,000 population, while San Diego County had 54 case reports, also a rate of 1.6 per 100,000 population.

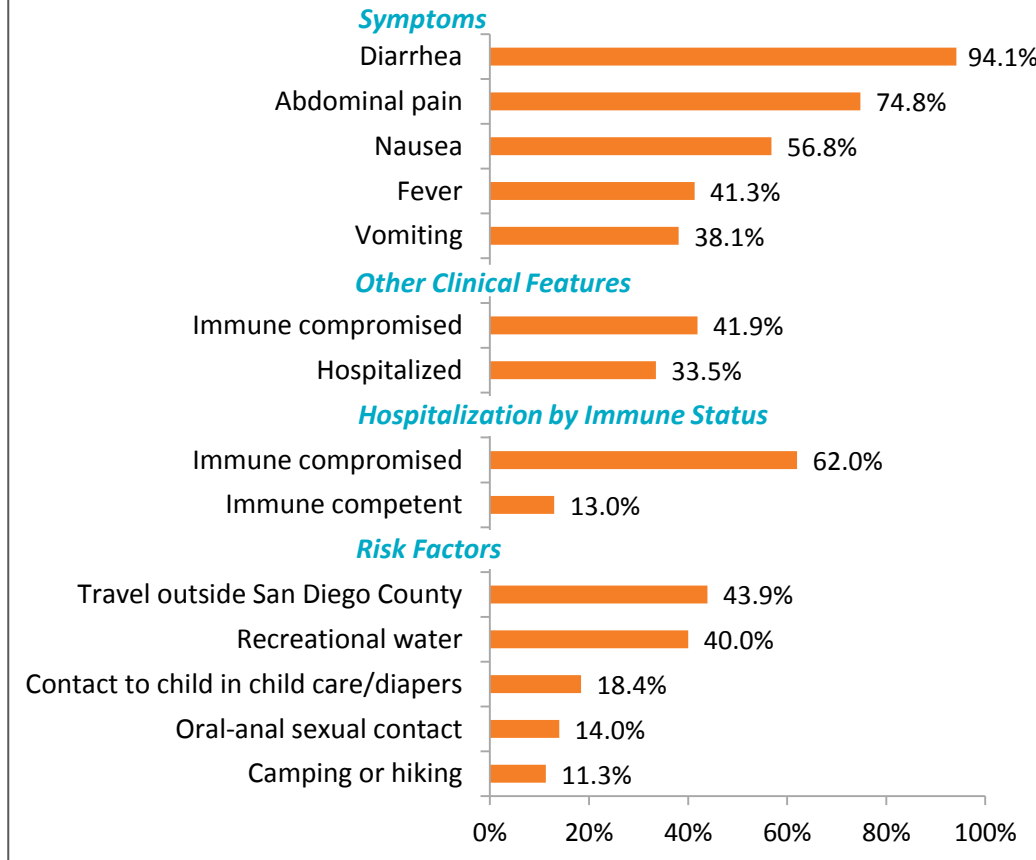
The estimated annual burden of crypto in the U.S. is much higher than the number of reported cases: [nearly 750,000 illnesses and over 2,700 hospitalizations](#).

Ill persons not seeking care, providers not requesting laboratory testing, under-reporting, and [diagnostic challenges](#) contribute to the large gap between crypto case reports and estimates of actual disease.

The Centers for Disease Control and Prevention (CDC) [recommends that providers consider crypto](#) in patients with diarrhea lasting longer than three days. Providers must explicitly request crypto testing. Because special techniques are required, standard microscopic examination of stool for ova and parasites will not detect *Cryptosporidium* oocysts. Most stool panels do not include crypto testing. Due to intermittent shedding, three specimens collected on separate days may be required.

Molecular testing methods, such as PCR, are beginning to change the testing landscape, and are possibly responsible for increased detection of crypto and the resulting recent increases in case counts.

Figure 3. Clinical and Risk Characteristics, Cryptosporidiosis Cases, San Diego County, 2013-2018* (N=242)



*2018 year to date; current as of 10/15/2018. Denominators are cases with available information for each variable, ranging from 136 to 205. Risk factors are potential exposures reported, not confirmed sources of infection. Data are provisional and subject to change.

Resources

- [Centers for Disease Control and Prevention \(CDC\) Cryptosporidiosis website](#)
- [California Department of Public Health \(CDPH\) Cryptosporidiosis website](#)
- [CDC Healthy Water website](#)
- [County of San Diego \(COSD\) Department of Environmental Health Pool Program website](#)



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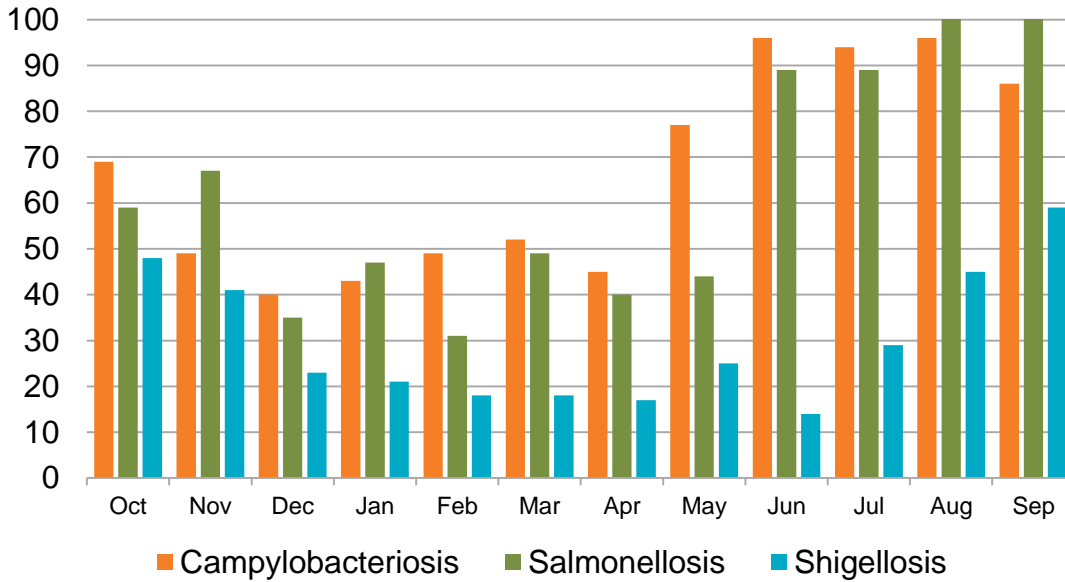


Table 1. Select Reportable Diseases		2018			Prior Years		
		Current Month	Prior Month	Year-to-Date (YTD)	2017 YTD	Avg YTD, Prior 3 Years	2017 Total
Disease and Case Inclusion Criteria (C,P,S)							
Amebiasis	C	1	1	8	8	13.3	10
Botulism (Foodborne, Infant, Wound, Other)	C,P	0	0	10	5	3.3	8
Brucellosis	C,P	0	0	1	5	3.0	5
Campylobacteriosis	C,P	86	96	638	726	603.0	883
Chickenpox, Hospitalization or Death	C,P	1	0	1	2	1.7	3
Chikungunya	C,P	0	1	5	2	4.0	2
Coccidioidomycosis	C	14	25	207	188	139.7	313
Cryptosporidiosis	C,P	13	12	68	38	27.0	54
Dengue Virus Infection	C,P	0	0	4	10	11.3	12
Encephalitis, All	C	1	2	29	36	54.7	43
Giardiasis	C,P	21	15	183	256	244.0	317
Hepatitis A, Acute	C	1	1	30	500	177.3	576
Hepatitis B, Acute	C	0	0	6	12	8.7	13
Hepatitis B, Chronic	C,P	72	67	649	653	646.0	868
Hepatitis C, Acute	C,P	0	0	1	4	1.7	4
Hepatitis C, Chronic	C,P	270	369	3,265	2,223	2,165.3	3,113
Legionellosis	C	4	0	31	50	40.7	66
Listeriosis	C	0	2	11	14	13.3	15
Lyme Disease	C,P	0	0	6	18	13.0	21
Malaria	C	1	0	5	6	7.3	8
Measles (Rubeola)	C	0	0	0	2	3.3	2
Meningitis, Aseptic/Viral	C,P,S	8	25	101	129	136.3	187
Meningitis, Bacterial	C,P,S	1	3	31	31	29.7	39
Meningitis, Other/Unknown	C	0	2	11	27	25.0	34
Meningococcal Disease	C,P	2	2	10	1	1.3	1
Mumps	C,P	1	0	7	12	10.0	15
Pertussis	C,P,S	28	37	511	801	619.3	1,161
Rabies, Animal	C	0	1	6	14	8.3	16
Rocky Mountain Spotted Fever	C,P	0	0	1	1	1.7	3
Salmonellosis (Non-Typhoid/Non-Paratyphoid)	C,P	103	112	604	414	421.0	576
Shiga toxin-Producing <i>E. coli</i> (including O157)	C,P	12	12	111	37	37.0	288
Shigellosis	C,P	59	45	246	223	160.0	334
Typhoid Fever	C,P	1	1	2	2	3.0	2
Vibriosis	C,P	5	15	47	43	37.7	50
West Nile Virus Infection	C,P	0	0	0	2	17.3	2
Yersiniosis	C,P	2	2	20	43	20.3	54
Zika Virus	C,P	1	1	6	16	26.3	21

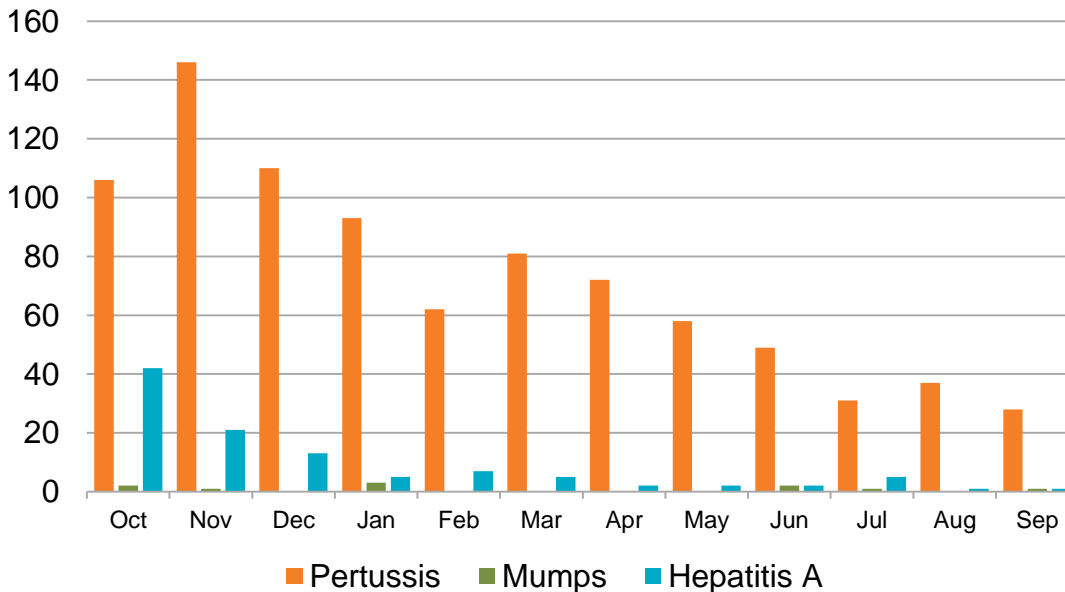
Case counts are provisional and subject to change as additional information becomes available. Cases are grouped into calendar months and calendar years on the basis of the earliest of the following dates: onset, lab specimen collection, diagnosis, death, and report received. Counts may differ from previously or subsequently reported counts due to differences in inclusion or grouping criteria, late reporting, or updated case information. Inclusion criteria (C,P,S = Confirmed, Probable, Suspect) based on Council of State and Territorial Epidemiologists/Centers for Disease Control and Prevention (CSTE/CDC) surveillance case criteria.



**Figure 4. Select Enteric Infections by Month
October 2017 – September 2018**

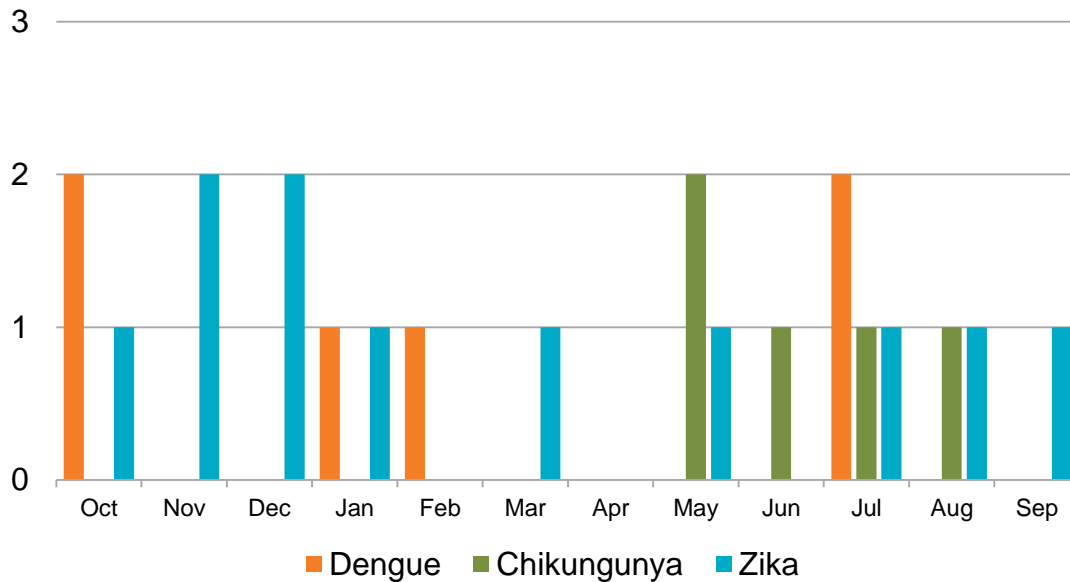


**Figure 5. Select Vaccine-Preventable Infections by Month
October 2017 – September 2018**



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**Figure 6. Select Vector-Borne Infections by Month
October 2017 – September 2018**



All of these dengue, chikungunya, and Zika virus cases are travel-associated. For additional information on Zika cases, see the [HHS Zika Virus webpage](#). **Case counts are provisional and subject to change as additional information becomes available.** Cases are grouped into calendar months and calendar years on the basis of the earliest of the following dates: onset, lab specimen collection, diagnosis, death, and report received. Counts may differ from previously or subsequently reported counts due to differences in inclusion or grouping criteria, late reporting, or updated case information. Inclusion criteria (C,P,S = Confirmed, Probable, Suspect) based on Council of State and Territorial Epidemiologists/Centers for Disease Control and Prevention (CSTE/CDC) surveillance case criteria.

Disease Reporting in San Diego County

San Diego County communicable disease surveillance is a collaborative effort among Public Health Services, hospitals, medical providers, laboratories, and the [San Diego Health Connect](#) Health Information Exchange (HIE). The data presented in this report are the result of this effort.

Reporting is crucial for disease surveillance and detection of disease outbreaks. Under the California Code of Regulations, Title 17 (Sections [2500](#), [2505](#), and [2508](#)), public health professionals, medical providers, laboratories, schools, and others are mandated to report more than 80 diseases or conditions to San Diego County Health and Human Services Agency.

To report a communicable disease, contact the Epidemiology Program by phone at (619) 692-8499 or download and print a Confidential Morbidity Report form and fax it to (858) 715-6458. For urgent matters on evenings, weekends or holidays, dial (858) 565-5255 and ask for the Epidemiology Program duty officer. For more information, including a complete list of reportable diseases and conditions in California, visit the Epidemiology Program website, www.sdepi.org.

Tuberculosis, sexually transmitted infections, and HIV disease are covered by other programs within Public Health Services. For information about reporting and data related to these conditions, search for the relevant program on the Public Health Services website, <http://www.sandiegocounty.gov/content/sdc/hhsa/programs/phs.html>.